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THE NECESSITY OF A REVISION  
OF THE  
CLASSIFICATION AND NOMENCLATURE  
EMPLOYED IN THE  
VITAL STATISTICS OF MASSACHUSETTS.

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## THE NECESSITY OF A REVISION OF THE CLASSIFICATION AND NOMENCLATURE EMPLOYED IN THE VITAL STATISTICS OF MASSACHUSETTS.

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IN the following paper I do not propose to treat exhaustively of the subjects of the medical nomenclature and classification of diseases, but rather to introduce the subject in a suggestive manner with the view of asking the question whether any changes are necessary, and if so, what changes, in the classification and nomenclature now employed in the registration of deaths in this State.

What are the primary objects of the classification and nomenclature of diseases? An English writer has clearly said, "a good classification aids and simplifies the registration of diseases, helps toward a more easy comparison and knowledge of them, and toward the storing of experience respecting them, and facilitates the discovering of general principles from the collected, grouped and compared phenomena."<sup>1</sup>

In addition, medical nomenclature and terminology furnish the means for separating and distinguishing diseases and causes of death. Thorough registration must depend to a considerable degree for its efficiency upon the perfection of these means. The classification of diseases or causes of death differs little, if any, in its objects, from the great systems of classification employed in the different departments of biology. One of the greatest of modern teachers, Professor Agassiz, says, in commenting upon the object and utility of classification, "Have we, perhaps, thus far, been only the unconscious

<sup>1</sup> Elements of vital statistics. Arthur Newsholme, M.D., London, 1889.



interpreters of a divine conception, in our attempts to expound Nature? And when in our pride of philosophy, we thought that we were inventing systems of science, and classifying creation by the force of our reason, have we followed only, and reproduced in our imperfect expressions, the plan whose foundations were laid in the dawn of creation, and the development of which we are laboriously studying; —thinking, as we put together and arrange our fragmentary knowledge, that we are anew introducing order into chaos? Is this order the result of the exertions of human skill and ingenuity, or is it inherent in the objects themselves, so that the intelligent student of natural history is led unconsciously by the study of the animal kingdom itself, to these conclusions, the great divisions under which he arranges animals being but the headings to the chapters of the great book he is reading?"

The intelligent student of medicine, and by the term student I would include the whole profession, (for we are students as long as we live, and the science of medicine has anything to teach us), the true student of medicine is in the same position as the student of nature.

An ex-president of this Society, in his annual address, stated his belief that "Disease is a part of the Plan of Creation," and if we accept this proposition, which modern researches as to the cause of disease seem still more strongly to confirm, it becomes our duty to learn as clearly as possible what the plan is, and what is its natural order of arrangement.

A uniform and conventional classification of diseases is desirable, in order that the medical profession everywhere, in all nations and lands, may the more intelligently and harmoniously unite in the study of the diseases of mankind. It is neither necessary nor is it possible that such classification should be immutable, since the progressive character of medical science is such as to require changes from time

to time. When such changes are made, however, they should be agreed upon as the conventional opinion of the profession.

Two centuries ago the classification and nomenclature of disease was widely different from that of to-day. Who can tell how far that of to-day differs from that which will become the admitted classification of two centuries hence? This want of uniformity interferes with the interpretation of medical statistics, especially when such statistics cover a long period of time. So far as the larger groups or divisions are concerned, there is no way of avoiding this disturbing cause.

The classification of the seventeenth century can scarcely be called a classification. In the mortality statistics of the city of London, compiled by Capt. John Graunt of the Royal Society, and embracing the period from 1629 to 1660, no classification is attempted, and while the nomenclature includes many terms which are still in common use, there are many others which contribute quite largely to the mortality-lists, which have no place in modern nomenclature. The following are a few of these terms, *Impostume*, *Chrisoms*, *Jaw faln*, *Calenture*, *Planet*, *Flox*, *Livergrown*, *Woolf*, *Rising of the Lights*. Some of these were indicative of a superstitious origin, others were merely the names of symptoms and not of diseases.

In the next century, the eighteenth, Cullen attempted to bring order out of confusion by proposing four general divisions or classes of disease. This was a decided advance beyond the confused methods of his predecessors, and his four classes of (1) *The Pyrexia*, (2) *Neuroses*, (3) *Cachexia*, and (4) *Locales*, served to a considerable degree as a basis for the modern nosology of the present century, that of the Royal College of Physicians, now in common use among English speaking physicians.

"It has been said that it is of slight consequence how we

arrange our knowledge, provided we do actually know what we think we know; and further that we should rest contented with the isolated fragments we can gather together, if we are careful to sift and verify them. It is obvious, however, that we cannot know any one thing accurately until we know it in its relation to others."<sup>1</sup> And herein lies the basis of that important branch of medical science known as diagnosis.

The tendency of the different sciences to overlap, and to trench upon each other's boundaries, increases with the progress of human knowledge, and there is scarcely any science which is not constantly borrowing from some other science. For example, the relation of zoölogy to geology, through the intermediate science of paleontology, may be quoted. Again, engineering has joined hands with chemistry on the one hand, and with physics on the other. Especially is this true with medicine, or the science of the human body in health and disease, which finds one handmaid in chemistry, another in botany, and allies itself with law in the department of medical jurisprudence. In recent years it has called to its aid the science of bacteriology to assist in the study of almost the whole group of infectious diseases.

The international importance of a conventional system of medical nomenclature and classification becomes yearly more apparent, and the subject forces itself to the front in the great scientific bodies which convene at regular periods throughout the civilized world. The International Medical Congress, the International Congress of Hygiene, and the International Statistical Congress have all deemed the subject worthy of consideration. It is in these bodies that the foremost men of science of different nations often come in contact, and opportunities are offered for comparing and unifying existing methods of work.

The following governments and authorities now have the

<sup>1</sup> Prof. W. Knight. Essay on Classification of the Sciences.



most complete and thorough system of registration of vital statistics :—

Great Britain, the collection of whose vital statistics is made by the Register General.

Germany, by the Royal Health office.

Italy, under the direction of the Department of Agriculture, Industry and Commerce. Professor Bodio.

France. Published by the Consulting Committee of Public Hygiene.

Austria. The Royal Central Statistical Commission.

Hungary. The Weekly Bulletins of International Statistics. Prof. Josef Körösi.

Belgium. The resumé of demography and medical statistics by Dr. E. Janssens.

Sweden. Government Medical Statistics.

Switzerland. Monthly and yearly bulletins of the Statistical Bureau of the Confederate Cantons.

To these should be added the mortality reports of the ninth, tenth and eleventh censuses of the United States (the latter being now in course of publication), and the registration reports of such of the older states as have established a system of registration.

*Defects of our present system of registration.* During the past ten years or more, several earnest attempts have been made, in which members of this Society have occasionally taken a prominent part, to secure in Massachusetts a Medical Practice Act, which would secure, both to the profession and to the people at large, such advantages as are enjoyed in other states having similar Acts in force. No greater argument could be found for the enactment of such a statute than that which may be found in a careful perusal of the certificates of deaths which are annually returned to the State authorities. Herein is also a standing argument for better medical education.

How may this defect be remedied? In the first place,

the nomenclature and classification should be made to conform to the progress of medical science. Secondly, more thorough medical education should be constantly encouraged. Thirdly, the administration of the collection of vital statistics should be improved. The first authority to receive and collect the individual certificates of death from undertakers and physicians is the registrar in cities and the clerk in towns. A decided improvement has been effected in recent years by adding the authority of the local Board of Health, so that the registrar or clerk becomes the supervisor or collector of certificates of death, while the Board of Health issues permits for burial. But unfortunately, in at least one hundred and fifty towns in the state, no Board of Health exists, except the *ex-officio* Board, the Selectmen, a Board which is never elected in consequence of its expert knowledge of vital statistics. In some of the southern countries of Europe local inspectors are appointed (*leichenbeschauer*), whose duty it is to inspect or visit every household where a death has occurred and see that the certificates of death are properly returned. An army of such officials would hardly be in keeping with our own form of government, but a decided improvement might be made by requiring that all certificates of death in small towns should be submitted to some district medical authority at stated intervals, such authority to have power to return all deficient or erroneous certificates for revision to the original signers. Several thousand such letters of inquiry are annually issued in England for the purpose of correcting the returns. In addition to these improvements, the entire work of registration should be placed under efficient medical supervision.

Let us now examine briefly the system of classification in general use in Massachusetts, which was copied almost identically in 1855 from that adopted in England, and is nearly the same as that advised by Dr. Farr, well-known as the foremost English authority in his day.



The general divisions adopted are five in number :

1. Zymotic Diseases.
2. Constitutional “
3. Local “
4. Developmental “
5. Violent Deaths.

In this connection these should all be considered as groups of causes of deaths, and not as diseases.

For example, the entire fifth group is composed, not of so many names of distinct forms of disease, but of different modes of death by external causes, or in other words by violent means.

In the class of Deaths from Developmental Causes, *old age*, for example, a most common term in death certificates, cannot be called a cause of death, much less a disease. It is simply a period of life, and the use of the term in certificates is simply a confession of our inability to give an exact statement of the true cause.

Let us now examine the list more closely.

The first question I have to propose, is whether the term *zymotic* as a general name of the first class or division may not be supplanted by some term which is better adapted to the progress of Medical Science.

Does the term *miasmatic* properly describe the diseases of the first group of Class I.?

Does not typhus fever belong in the primary list?

Anthrax, fifty years ago, was a synonym for Carbuncle. Is it so considered at the present day?

Should not such terms as Metria and Nephria, now obsolete, be dropped from the list?

Should not the term Intermittent Fever be introduced into the primary list? (Ague scarcely covers the exact meaning.)

In Class II. of the list now in use (Constitutional Diseases) may be found the most destructive of all diseases, in

our climate and in our State (Tuberculosis). It was placed in this class according to the belief of the profession of fifty years ago. Does not modern observation, and a more intimate knowledge of its history, require that it should be placed in the First Class with other infectious diseases?

Under Class III. (Order 1), nervous diseases, we find at the head of the list the very indefinite term *Cephalitis*. Just what is meant by this term, it would be difficult to tell. It appears to be employed at present as a convenient omnibus into which are packed all deaths from diseases of the brain, which cannot be otherwise classified. More than six thousand persons (or over two per cent. of all deaths) are said to have died of *Cephalitis* in Massachusetts in the five years ending with 1890.

In the same list of nervous diseases no place is given to deaths from diseases of the spinal cord, except those which may be included in the meaningless &c. at the end of the list.

In the division of diseases of the organs of circulation, Class III., the deaths attributed to heart diseases appear to have increased from a total of 352 in 1850, to 3417 in 1890, and when these numbers are compared with the living population at those periods, we find that the actual increase amounts to nearly five-fold.

Two causes may be stated for this apparent excessive increase. One is the tendency in later years to more accurate diagnosis, on the part of educated and intelligent medical men. Many deaths were certified in the earlier years of registration, as deaths from dropsy, a term now very much less used, the disease being stated instead of the symptom. Another cause exists undoubtedly in the fact that in the past ten years the term "heart failure" has taken so strong a hold as to be employed in many certificates where no disease of the heart existed, either functional or organic. Some heroic remedy is needed for the cure of this evil.

These are but a small portion of the defects to which I have called your attention. Others exist in the employ-

ment of mere symptoms in place of the names of diseases, as in the terms paralysis, convulsions, dropsy, and also in the use of such indefinite terms as hemorrhage, tumors, &c. On the other hand it must be acknowledged that very great improvement has taken place in this direction in the past fifty years of registration. The ratio of deaths certified as having taken place from unknown or indefinite and ill-defined causes has diminished from 5.7 per cent. in 1868 to 1.2 per cent. in 1890.

The mortality attributed to diseases of the kidneys in Massachusetts in 1850 was only 18, while in 1890 it had increased to 1273. It is not to be understood that this enormous increase of more than sixty fold, and more than thirty fold when compared with the population, is an actual increase, but is due to better medical education, and especially to a more correct diagnosis. The same is true of diphtheria, a term which has no place whatever in the registration returns until 1858. We are not, therefore, to understand that diphtheria (a disease which is very carefully described both by Hippocrates and Aretæus) appeared for the first time in Massachusetts in 1858.

The registration of the causes of death in any community, whether it be a city or a nation, furnishes the basis for sanitary work, since it is by means of the comparison of the registration returns of different countries and different cities that we are enabled to judge of the comparative prevalence in them of those diseases which are, in some degree at least, within the control of mankind, and hence are preventible. A thorough and efficient registration offers to us the opportunity of studying the effect of many conditions upon the health of the people, such as the conditions of sex, different age-periods, density of population, occupation, civilization, intemperance, locality, seasons of the year, and other physical agencies. Hence it is, that the machinery of registration, the nomenclature and classification, should be in harmony with the progress of medical science.



